STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

ORDER OF THE SUPERVISOR OF WELLS

IN THE MATTER OF

THE PETITION OF MERIDIAN PRODUCTION SERVICES, L.L.C. FOR AN ORDER FROM THE SUPERVISOR OF WELLS ESTABLISHING A 120-ACRE TRENTON FORMATION DRILLING UNIT AS AN EXCEPTION TO R 324.301 AND COMPULSORY POOLING ALL INTERESTS INTO THE UNIT.	) ORDER NO. 16-2007

OPINION AND ORDER

Background

This case involves the Petition of Meridian Production Services, L.L.C. (Petitioner). The Petitioner proposes to drill and complete a well for oil and gas (the Vergote & Goetz 2-31 HD well) within a drilling unit in the stratigraphic interval known as the Trenton Formation. Petitioner is requesting a 120-acre drilling unit for the Vergote & Goetz 2-31 HD well as an exception to the drilling unit size of 40 acres established by the general spacing rule, R 324.301. The proposed unit consists of the S 1/2 of SW 1/4 and SW 1/4 of SE 1/4, Section 31, T7S, R6E, Summerfield Township, Monroe County, Michigan. Since not all of the mineral owners within the proposed drilling unit have agreed to voluntarily pool their interests, the Petitioner seeks an Order of the Supervisor of Wells (Supervisor) designating the Petitioner as operator of the 120-acre drilling unit and requiring compulsory pooling of all tracts and interests within that geographic area for which the owners have not agreed to voluntary pooling.

Jurisdiction

The development of oil and gas in this State is regulated under Part 615, Supervisor of Wells, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. MCL 324.61501 *et seq.* The purpose of Part 615 is to ensure the orderly development and production of the oil and gas resources of this State.

MCL 324.61502. To that end, the Supervisor may establish drilling units and compulsorily pool mineral interests within said units MCL 324.61513(2) and (4). However, the formation of drilling units by compulsory pooling of interests can only be effectuated after an evidentiary hearing. 1996 MR 9, R 324.302 and R 324.304 The evidentiary hearing is governed by the applicable provisions of the Administrative Procedures Act, 1969 PA 306, as amended, MCL 24.201 *et seq*. See 1996 MR 9, R 324.1203. The evidentiary hearing in this matter was held on October 9, 2007.

FINDINGS OF FACT

Petitioner specifically requests that the Supervisor issue an Order that:

1. Creates a 120-acre drilling unit for the proposed Vergote & Goetz 2-31 HD well consisting of the S 1/2 of SW 1/4 and SW 1/4 of SE 1/4, Section 31, T7S, R6E, Summerfield Township, Monroe County, Michigan.

2. Requires compulsory pooling of all tracts and mineral interests within the proposed drilling unit that have not agreed to voluntary pooling;

3. Names Petitioner as operator of the Vergote & Goetz 2-31 HD well; and

4. Authorizes Petitioner to recover certain costs and other additional compensation from the parties subject to the compulsory pooling order.

The Administrative Law Judge determined the Notice of Hearing was properly served and published. Petitioner is the only party to this case. The Supervisor designated the hearing to be an uncontested evidentiary hearing pursuant to R 324.1205(1)(c) and directed evidence be presented in the form of verified statements.

In support of its Petition, the Petitioner offered the verified statements of Richard Patterson, land man, and John M. Taylor, petroleum geologist.

I. Drilling Unit

The spacing of wells targeting the Trenton Formation in the subject area is governed by the general spacing rule, R 324.301. This rule establishes drilling units of 40 acres, more or less, consisting of one governmental surveyed quarter-quarter section of land, with allowances being made for the size and shape of the government surveyed quarter sections. It is presumed that one well will efficiently and economically

drain the entire unit of hydrocarbons. The Petitioner's proposed drilling unit is described as the S 1/2 of SW 1/4 and SW 1/4 of SE 1/4, Section 31, T7S, R6E, Summerfield Township, Monroe County, Michigan.

Mr. Taylor states Petitioner proposes to drill a near-horizontal directional well from a surface location in the SW 1/4 of SE 1/4 of Section 31, extending in a westerly direction to a bottom hole location at the east boundary of the SW 1/4 of SW 1/4 of Section 31. The well bore will penetrate parts of the entire 120-acre proposed drilling unit. Mr. Taylor states based on his review, study, and analysis of available geologic information, he has ascertained the possibility of the existence of a productive Trenton horizon beneath the proposed drilling unit. He prepared a map showing the top of the Trenton structure in subsea as the top of the reservoir (Exhibit A), upon which he concluded that the proposed drilling unit is equitable as it reasonably represents the area which may be drained by the proposed well.

Mr. Taylor stated there is a fault (the Bowling Green Fault) which bisects the SW 1/4 of SW 1/4 of Section 31 in a north/south orientation. This fault is depicted on Exhibit A, and Exhibit B a seismic line running west to east approximately 600 feet south of the proposed well location. The presence of this fault raises a question as to the productive nature of the Trenton Formation on the western side of the fault. Mr. Taylor indicates Petitioner would support a 100-acre drilling unit consisting of the E 1/2 of the SW 1/4 of SW 1/4, the SE 1/4 of SW 1/4, and SW 1/4 of SE 1/4 Section 31, T7S, R6E, Summerfield Township, Monroe County, Michigan, if the Supervisor finds a 100-acre drilling unit to be more appropriate.

I find that the 120-acre proposed drilling unit, as an exception to R 324.301, will prevent waste, and as such, is an approved drilling unit for the Vergote & Goetz 2-31 HD well. The proposed 120-acre unit maintains orderly development by combining full drilling units.

II. Drilling Unit Operator

Mr. Patterson stated Meridian Energy Corporation owns or controls 119 net acres of mineral interests in the proposed 120-acre drilling unit on behalf of Texas Keystone, Inc. Petitioner desires to drill and operate the Vergote & Goetz 2-31 HD well on the

proposed drilling unit and asks to be named operator of the unit as authorized representative of Texas Keystone, Inc. I find, as a Matter of Fact, the Petitioner is eligible to be designated operator of the Vergote & Goetz 2-31 HD well.

III. Compulsory Pooling

As found, the Petitioner has proposed a proper drilling unit for the Trenton Formation, but was unable to obtain the agreement of all mineral and working interest owners to gain its full control of the interests in such unit. The Petitioner may not produce a well on the drilling unit without first obtaining control of all of the oil and gas interests. In cases like this, it is necessary for the Petitioner to request compulsory pooling from the Supervisor. As discussed, a mineral or working interest owner who does not agree to voluntarily pool his, her, or its interest in a drilling unit may be subject to compulsory pooling. 1996 MR 9, R 324.304. The compulsory pooling of an interest must be effectuated in a manner that ensures "each owner...is afforded the opportunity to receive his or her just and equitable share of the production of the unit." Id. In addition to protecting correlative rights, the compulsory pooling must prevent waste. MCL 324.61502. An operator must first seek voluntary pooling of mineral interests within a proposed drilling unit prior to obtaining compulsory pooling through an order of the Supervisor.

All of the owners of oil and gas interests within the proposed drilling unit agreed to voluntarily pool their interests, with the exception of approximately 1.0 acre owned by John R Chandler and Joyce Chandler, located in part of the west 1/2 SE 1/4 of Section 31, T7S, R6E described as: commencing at the south 1/4 corner thereof, thence north 290.4 feet, thence north 89 degrees, 35 minutes 30 seconds east 150 feet, thence south 290.4 feet, thence south 89 degrees 35 feet 30 inches west 150 feet to the point of beginning. Mr. Patterson's verified statement indicates Petitioner made repeated attempts to lease Mr. and Mrs. Chandler's mineral interest for the purposes of drilling the Vergote & Goetz 2-31 HD well. Mr. Patterson stated lease offers equaling or exceeding the best terms paid to any owner in the unit were offered to Mr. and Mrs. Chandler. However, despite those efforts, it is Petitioner's belief a voluntary unit cannot be formed.

Based on the foregoing, I find, as a Matter of Fact:

1. The Petitioner was able to voluntarily pool all but approximately 1.0 mineral acre of the proposed 120-acre Trenton Formation drilling unit.

2. Compulsory pooling is necessary to form a full drilling unit, to protect correlative rights of unleased mineral owners, and to prevent waste by preventing the drilling of unnecessary wells.

Now that it has been determined compulsory pooling is necessary and proper in this case, the terms of such pooling must be addressed. When pooling is ordered, the owner of the compulsorily pooled lands or interests (Pooled Owner) is provided an election on how he or she wishes to share in the costs of the project. R 324.1206(4). A Pooled Owner may participate in the project, or in the alternative be "carried" by the operator. If the Pooled Owner elects to participate, he or she assumes the economic risks of the project, specifically, by paying his or her proportionate share of the costs or giving bond for the payment. Whether the well drilled is ultimately a producer or dry hole is immaterial to this obligation. Conversely, if a Pooled Owner elects not to participate, the Pooled Owner is, from an economic perspective "carried" by the operator. Under this option, if the well is a dry hole the Pooled Owner has no financial obligation because they did not assume any risk. If the well is a producer, the Supervisor considers the risks associated with the proposal and awards the operator compensation, out of production, for assuming all of the economic risks.

In order for a Pooled Owner to decide whether he or she will "participate" in the well or be "carried" by the operator, it is necessary to provide reliable cost estimates. In this regard the Petitioner must present proofs on the estimated costs involved in drilling, testing, completing, and equipping the proposed well. Petitioner's Authorization for Expenditure (AFE) form for the Vergote & Goetz 2-31 HD well itemizes estimated costs to be incurred in the drilling, completing, testing, equipping, and plugging of the well (Petition, Exhibit C). The estimated costs are $542,133.00 for drilling; $107,170.00 for completion; and $49,500.00 for equipping. The total estimated producing well costs for the Vergote & Goetz 2-31 HD well are $698,803.00. Id. There is no evidence on this record refuting Petitioner's estimated costs.

I find, as a Matter of Fact, the estimated costs are reasonable for the purpose of providing the pooled owners a basis on which to elect to participate or be carried.

However, I find actual costs shall be used in determining the final share of costs and additional compensation assessed against a Pooled Owner.

The next issue is the allocation of these costs. Part 615 requires the allocation be just and equitable. MCL 324.61513(4). It is Mr. Taylor's opinion that the proposed drilling unit is reasonably underlain by the interpreted structure and that allocation of production on a surface acreage basis would be fair and equitable to all interest owners within the proposed drilling unit. Established practices and industry standards suggest this to be a fair and equitable method of allocation of production and costs. Therefore, I find, as a Matter of Fact, utilizing acreage is a fair and equitable method to allocate to the various tracts in the proposed drilling unit each tract's just and equitable share of unit production and costs. To be clear, I find that an owner's share in production and costs should be in proportion to their net mineral acreage.

The final issue is the additional compensation for risk to be assessed against a Pooled Owner who elects to be carried. The administrative rules under Part 615 provide for the Supervisor to assess appropriate compensation for the risks associated with drilling a dry hole and the mechanical and engineering risks associated with the completion and equipping of wells. 1996 AACS, R 324.1206(4)(b).

Mr. Taylor indicates the seismic line set out on Exhibit B shows faulting within the Trenton Formation that is interpreted to improve the Trenton reservoir qualities of hydrocarbon storage and deliverability. Such data supports a hypothesis that a producible Trenton interval exists within the proposed drilling unit. However, this hypothesis can only be conclusively proven by drilling the well. In Mr. Taylor's opinion, the proposed well is significantly risky because the Goetz 1-31 (Permit No. 51741) and 1-31A (Permit No. 52112) Trenton dry holes in Section 31 indicate the possibility that the Trenton will be unproductive; there are technical risks as to whether horizontal drilling can be achieved; and there are completion risks of stimulating and casing the horizontal bore hole that may prevent proper production of the well. Mr. Taylor believes these circumstances support Petitioner receiving compensation for the risk of a dry hole consisting of 300 percent of drilling costs. In addition, he indicated there is a risk that even if the proposed well is completed as a producer of oil and/or gas, the reservoir may have limited fractures, or there may be limited reserves which will not be sufficient

to pay for costs of completion or equipping. Mr. Taylor believes these circumstances support Petitioner receiving 200 percent of completion costs and 100 percent of equipping costs.

Petitioner did present substantial evidence to show that the risks associated with drilling a dry hole justify a 300 percent penalty. Moreover, past experience shows that drilling results are not always a reliable indicator of whether completing and equipping costs can be fully recovered from eventual production revenues. I find, as a Matter of Fact, that the risk of the proposed Vergote & Goetz 2-31 HD well being a dry hole supports additional compensation from the Pooled Owners of 300 percent of the actual drilling costs incurred. In addition, the mechanical and engineering risks associated with the well support additional compensation of 200 percent of the actual completing, and 100 percent of the actual equipping costs incurred. Operating costs are not subject to additional compensation for risk.

CONCLUSIONS OF LAW

Based on the findings of fact, I conclude, as a matter of law:

1. The Supervisor may compulsorily pool properties when pooling cannot be agreed upon. Compulsory pooling is necessary to prevent waste and protect the correlative rights of the Pooled Owners in the proposed drilling unit. MCL 324.61513(4).

2. This Order is necessary to provide for conditions under which each mineral and working interest owner who has not voluntarily agreed to pool all of his, her, or its interest in the pooled unit may share in the production. 1996 AACS, R 324.1206(4).

3. The Petitioner is an owner within the drilling unit and therefore is eligible to drill and operate the Vergote & Goetz 2-31 HD well. 1996 AACS, R 324.1206(4).

4. The Petitioner is authorized to take from each nonparticipating interest's share of production, the cost of drilling, completing, equipping, and operating the well,

plus an additional percentage of the costs as identified in the Determination and Order section of this Order for the risks associated with drilling a dry hole and the mechanical and engineering risks associated with the completion and equipping of the well. 1996 AACS, R 324.1206(4).

5. An exception to the spacing established by R 324.301 is appropriate for the proposed drilling unit. Exceptions to this rule may be granted by the Supervisor after a hearing.

6. The Supervisor has jurisdiction over the subject matter and the persons interested therein.

7. Due notice of the time, place, and purpose of the hearing was given as required by law and all interested persons were afforded an opportunity to be heard. 1996 AACS, R 324.1204.

DETERMINATION AND ORDER

Based on the Findings of Fact and Conclusions of Law, the Supervisor determines that compulsory pooling to form a 120-acre Trenton Formation drilling unit is necessary to protect correlative rights and prevent waste by the drilling of unnecessary wells.

NOW, THEREFORE, IT IS ORDERED:

1. A 120-acre Trenton Formation drilling unit is established for the S 1/2 of SW 1/4 and SW 1/4 of SE 1/4 of Section 31, T7S, R6E, Summerfield Township, Monroe County, Michigan. All properties, parts of properties, and interests in this area are pooled into the drilling unit. This pooling is for the purpose of forming a drilling unit only and neither establishes a right, nor diminishes any independent right, of the Petitioner to operate on the surface or subsurface lands of a Pooled Owner.

2. Each Pooled Owner shall share in production and costs in the proportion that their net mineral acreage in the drilling unit bears to the total acreage in the drilling unit.

3. The Petitioner is named Operator of the well. The Operator shall commence the drilling of the Vergote & Goetz 2-31 HD well within 90 days of the effective date of this Order, or the compulsory pooling authorized in this Order shall be null and void as to all parties and interests. This pooling Order applies to the drilling of the Vergote & Goetz 2-31 HD well only.

4. A Pooled Owner who is an unleased mineral owner shall be treated as a working interest owner to the extent of 100 percent of the interest owned in the drilling unit. Such a Pooled Owner is considered to hold a 1/8 royalty interest, which shall be free of any charge for the costs of drilling, completing, or equipping the well, or for compensation for the risks of the well, or operating the proposed well.

5. A Pooled Owner shall have ten days from the effective date of this Order to select one of the following alternatives and advise the Supervisor and the Petitioner, in writing, accordingly:

    a. To participate, by paying to the Operator, within ten days of making the election, the Pooled Owner's share of the estimated costs for drilling, completing, testing, and equipping the well, or by giving bond for the payment of the Pooled Owner's share of such costs promptly upon completion; and authorizing the Operator to take from the remaining 7/8 of such Pooled Owner's share of production, the Pooled Owner's share of the actual costs of operating the well; or

    b. To be carried, then if the well is put on production, authorize the Operator to take from the remaining 7/8 of the Pooled Owner's share of production:

(i) The Pooled Owner's share of the actual cost of drilling, completing, and equipping the well.

(ii) An additional 300 percent of the actual drilling costs, 200 percent of the actual completion costs, and 100 percent of the actual equipping costs attributable to the Pooled Owner's share of production, as compensation to the Operator for the risk of a dry hole.

(iii) The Pooled Owner's share of the actual cost of operating the well.

6. In the event the Pooled Owner does not notify the Supervisor in writing of the decision within ten days from the effective date of this Order, the Pooled Owner will be deemed to have elected the alternative described in ¶ 5(b). If a Pooled Owner who elects the alternative in ¶ 5(a) does not, within ten days of making their election, pay their proportionate share of costs or give bond for the payment of such share of such costs, the Pooled Owner shall be deemed to have elected the alternative described in ¶ 5(b) and the Operator may proceed to withhold and allocate proceeds for costs from the Pooled Owners' share of production (the remaining 7/8 in the case of an unleased mineral owner) as described in 5(b)(i)(ii)&(iii).

7. For purposes of the Pooled Owners electing alternatives, the amounts of $542,133.00 for estimated drilling costs (dry hole costs); $107,170.00 for estimated completion costs; and $49,500.00 for estimated equipping costs are fixed as well costs. Actual costs shall be used in determining the Pooled Owner's final share of well costs and in determining additional compensation for the risk of a dry hole. If a Pooled Owner has elected the alternative in ¶ 5(a) and the actual cost exceeds the estimated cost, the Operator may recover the additional cost from the Pooled Owner's share of production (the remaining 7/8 in the case of an unleased mineral owner). Within 60 days after commencing drilling of the well, and every 30 days thereafter until all costs of drilling, testing, completing, and equipping the well are accounted for, the Operator shall provide to the Pooled

Owner a detailed statement of actual costs incurred as of the date of the statement; and all costs and production proceeds allocated to that Pooled Owner.

8. All Pooled Owners shall receive the following information from the Operator by no later than the effective date of the Order:

   a. The Order;

   b. The AFE; and

   c. Each Pooled Owner's percent of charges from the AFE if the Pooled Owner were to choose option "a" in Paragraph 5, above.

9. A Pooled Owner shall remain a Pooled Owner only until such time as a lease is entered into with the Operator. At that time, terms of the lease shall prevail over the terms of this Order.

10. The Supervisor retains jurisdiction in this matter.

11. The effective date of this Order is Dec. 1, 2007.

DATED: Nov. 21, 2007

Harold R. Fitch

HAROLD R. FITCH
ASSISTANT SUPERVISOR OF WELLS
Office of Geological Survey
P.O. Box 30256
Lansing, MI 48909

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
SUPERVISOR OF WELLS

IN THE MATTER OF

THE PETITION OF MERIDIAN PRODUCTION SERVICES, L.L.C. FOR AN ORDER FROM THE SUPERVISOR OF WELLS ESTABLISHING A 120-ACRE TRENTON FORMATION DRILLING UNIT AS AN EXCEPTION TO R 324.301 AND COMPULSORY POOLING ALL INTERESTS INTO THE UNIT.	) CAUSE NO. 16-2007

NOTICE OF HEARING

Take notice that a contested case hearing will be held before the Supervisor of Wells (Supervisor) in the city of Lansing, Michigan, on the NINETH DAY OF OCTOBER (OCTOBER 9) 2007, BEGINNING AT 9:00 A.M., IN THE DEPARTMENT OF ENVIRONMENTAL QUALITY STEPHEN NISBET HEARING ROOM, ATRIUM LEVEL, SOUTH TOWER, CONSTITUTION HALL, 525 WEST ALLEGAN STREET, LANSING, MICHIGAN. The hearing will be conducted pursuant to Part 615, Supervisor of Wells, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA); MCL 324.61501 et seq., the administrative rules, 1996 AACS, 2001 MR 2, 2002 MR 23, R 324.101 et seq., and the Administrative Procedures Act, 1969 PA 306, as amended, MCL 24.201 et seq.; MSA 3.560(101) et seq.

The hearing is for the purpose of receiving testimony and evidence pertaining to the need or desirability of issuing an order in the matter of the petition of Meridian Production Services, L.L.C. (Petitioner), 6009 Marsh Road, P.O. Box 610, Haslett, Michigan 48840.

Petitioner seeks an order of the Supervisor to establish a 120-acre Trenton Formation drilling unit for the proposed Vergote & Goetz 2-31 well, as an exception to R 324 301, and pursuant to R 324.304 to compulsory pool all interests into the proposed drilling unit. The proposed drilling unit consists of the S 1/2 of SW 1/4 and SW 1/4 of SE 1/4 of Section 31, T7S, R6E, Summerfield Township, Monroe County, Michigan.

You can obtain a copy of the written petition by requesting one in writing from Mr. Richard B. Patterson, 6009 Marsh Road, P.O. Box 610, Haslett, Michigan 48840, telephone number 517-339-8444.

Take note that if you wish to participate as a party in the hearing by presenting evidence or cross-examining witnesses, you shall prepare and mail or otherwise deliver to the petitioner and Supervisor, not less than 5 days before the hearing date, an answer to the petition in the manner set forth in R 324.1204(6). Proof of mailing or

delivering the answer shall be filed with the Supervisor on or before the date of the hearing. The answer shall state with specificity the interested person's position with regard to the petition. Failure to prepare and serve an answer in a timely manner shall preclude you from presenting evidence or cross-examining witnesses at the hearing. If an answer to the petition is not filed, the Supervisor may elect to consider the petition and enter an order without oral hearing. Mail the answer to the petition to Mr. Richard B. Patterson at the above address, and to the Supervisor in care of the Assistant Supervisor of Wells, Mr. Harold R. Fitch, Office of Geological Survey (OGS), P.O. Box 30256, Lansing, Michigan 48909-7756.

Take further note that you may request a change in the location of the hearing to the county in which the proposed drilling unit is located. If the majority of the owners of the oil and gas rights, which are listed in the Petition as not voluntarily pooling their interests into the proposed drilling unit, include in their timely filed answers a request to hold the hearing in the county where the proposed drilling unit is located, the Assistant Supervisor of Wells shall: (i) at the time and place scheduled in this notice adjourn the scheduled hearing; (ii) reschedule the hearing for a location in such county, and (iii) provide, by first-class mail, notice of the rescheduled hearing date, time, and place prior to the rescheduled hearing date to all persons who filed an answer in response to this notice.

Questions regarding the Notice of Hearing should be directed to Ms. Susan Maul, OGS, Michigan Department of Environmental Quality, P.O. Box 30256, Lansing, Michigan 48909-7756, phone 517-241-1552. Persons with disabilities needing accommodations for effective participation in this hearing should call or write Ms. Maul at least a week in advance of the hearing date to request mobility, visual, hearing, or other assistance.

Dated: Sept. 4, 2007

Harold R. Fitch

HAROLD R. FITCH
ASSISTANT SUPERVISOR OF WELLS
Office of Geological Survey
P.O. Box 30256
Lansing, MI 48909-7756